

1. THE SUPPLY FAN SHALL BE DESIGNED FROM THE FACILITY AUTOMATION SYSTEM AND SHALL RUN CONTINUOUSLY DURING NORMAL OPERATION. THE EXHAUST FAN SHALL BE DESIGNED FOR BLUETOOTH SUPPLY AND EXHAUST AIR FLOW. SUPPLY AND EXHAUST AIR DUCTS SHALL BE OPEN WHEN THE SUPPLY AND EXHAUST FANS ARE RUNNING AND CLOSE WHEN THE UNIT IS OFF.
2. A SMOKE DETECTOR LOCATED IN THE DISCHARGE AIR STREAM SHALL STOP THE SUPPLY FAN WHEN SMOKE IS DETECTED. IF SMOKE IS DETECTED RUN.
3. EXHAUST AIR FROM THE SILE OR A DETECTOR WITHIN THE SILE IS ACTIVATED, THE SUPPLY AND EXHAUST FANS SHALL CONTINUE TO RUN.
4. A LOW TEMPERATURE DETECTION THERMOSTAT (MANUAL RESET), SENSING HEATING COIL DISCHARGE TEMPERATURE, SHALL STOP THE SUPPLY AND EXHAUST FANS WHEN THE TEMPERATURE OF THE DISCHARGE AIR FLOW FALLS BELOW 50°F (10°C) AND ALARM AT THE FMS UPON SENSING A COIL DISCHARGE TEMPERATURE BELOW 50°F (ADJUSTABLE).
5. DIFFERENTIAL PRESSURE SWITCHES AT EACH FILTER BANK WILL ALARM AT THE FMS WHEN PRESSURE DROP ACROSS THE FILTERS EXCEEDS SET POINT.

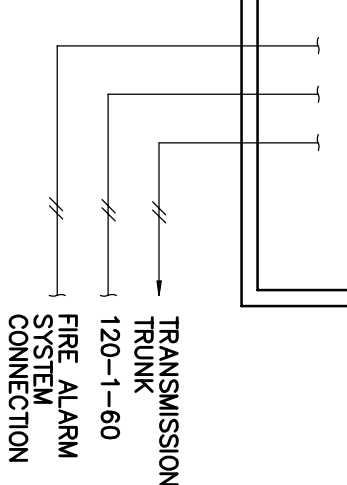
SEQUENCE OF OPERATION:

5. CHILLED WATER SHAKE-UP PROVIDED FROM THE CENTRAL PLANT SYSTEM (PRIMARY OR THE AIR COOLED WATER CHILLER THAT CURRENTLY SERVES SURGERY (EMERGENCY BACKUP) DURING NORMAL OPERATION, THREE WAY VALVES SHALL BE POSITIONED FOR CHILLED WATER FLOW FROM THE PLANT. IN THE EVENT OF A POWER FAILURE, THE THREE WAY VALVES SHALL BE POSITIONED FOR CHILLED WATER FLOW FROM THE AIR COOLED CHILLER WHICH IS FED FROM THE EMERGENCY POWER SYSTEM.
 6. A DISCHARGE AIR SENSOR AND THE DDC CONTROL SYSTEM SHALL MODULATE THE STEAM HEATING COIL, AND THE CHILLED WATER COOLING COIL, IN SEQUENCE TO MAINTAIN DISCHARGE AIR TEMPERATURE (49°F) WHEN AIR TEMPERATURE EXTINGUISHING THE COOLING COIL IS ABOVE DISCHARGE SETPOINT. THE DISCHARGE AIR TEMPERATURE SHALL BE MONITORED BY A TEMPERATURE SENSING DEVICE. THE STEAM HEATING COIL SHALL BE SET TO ENTERING THE HEATING COIL IS BELOW DISCHARGE SETPOINT. THE DISCHARGE CONTROL SHALL MODULATE THE TWO WAY STEAM COIL CONTROL VALVE TO MAINTAIN DISCHARGE AIR TEMPERATURE. BELOW 40°F ADJUSTABLE) OUTSIDE AIR TEMPERATURE, THE STEAM HEATING COIL VALVE WILL BE OPEN AND THE DISCHARGE CONTROL SHALL MODULATE THE FACE AND BYPASS DAMPERS ON THE HEATING COIL.
 7. AN AIR FLOW MONITORING STATION SHALL MEASURE SUPPLY AIR FLOW AND EXHAUST AIR FLOW AT THE AIR HANDLING UNIT. A DUCT PRESSURE SENSOR AND THE DDC CONTROL SYSTEM SHALL MODULATE THE SUPPLY AIR FAN SPEED TO MAINTAIN DUCT STATIC PRESSURE SET POINT. A DIFFERENTIAL PRESSURE CONTROLLER SHALL MODULATE THE EXHAUST AIR FAN SPEED TO MAINTAIN 0.05" POSITIVE PRESSURE IN THE SURGERY SUITE WITH RESPECT TO THE OUTSIDE.
 8. THE HEAT RECLAIM SYSTEM CIRCULATION PUMP SHALL BE STARTED AND STOPPED BASED ON OUTSIDE AIR AND EXHAUST AIR TEMPERATURE DIFFERENCE.
 9. IN THE EVENT THAT A SMOKE DETECTOR IS IN ALARM IN THE NEW SURGERY SUITE, THE SUPPLY FAN AND EXHAUST FAN SHALL CONTINUE TO RUN TO PULGE SMOKE FROM THE OPERATION ROOMS.
 10. DURING UNOCCUPIED PERIODS, THERMAL BBOXES SERVING THE OPERATING ROOMS SHALL BE MODULATED TO A LOWER AIR CHANGE RATE. DIFFERENTIAL PRESSURE CONTROLLERS AT EACH OPERATING ROOM AIR VALVES IN THE EXHAUST AIR FLOW FROM THE OPERATING ROOMS SHALL MODULATE TO MAINTAIN POSITIVE PRESSURE IN THE ROOMS WHEN THE SUPPLY AIR VOLUME IS REDUCED.
- THE HEAT RECLAIM PUMP SHALL BE STARTED AND STOPPED BASED ON OUTSIDE AIR TEMPERATURE. THE PUMP SHALL RUN BELOW AN ADJUSTABLE AIR TEMPERATURE (80°F) TO PRECOOL THE OUTSIDE AIR TO THE SYSTEM. THE PUMP SHALL RUN ABOVE AN ADJUSTABLE OUTSIDE AIR TEMPERATURE (80°F) TO PRECOOL THE OUTSIDE AIR TO THE SYSTEM. WHEN OUTSIDE AIR TEMPERATURE FALLS BETWEEN THE PREHEATING AND PRECOOLING OUTSIDE AIR TEMPERATURE, THE PUMP REMAINS OFF.

AIRFLOW SCHEDULE						
R/U#	AIRFLOW MEASURING STATION	OA DAMPER AIRFLOW	EXHAUST AIRFLOW	SUPPLY FAN VFD	EXHAUST FAN VFD	EXHAUST AIRFLOW
R/U-1	100% OA	8,300	7,650	DUCT + 1.5"	BLD 0.54"	TRACK RELIEF AIRFLOW
						8,280

NOTE: OFFSET VALUES LISTED SHALL BE ADJUSTABLE TO MAINTAIN POSITIVE BUILDING PRESSURIZATION.

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01 SURGERY AIR HANDLING UNIT CONTROL SCHEMATIC RTU-1 (TYPICAL OF 1)

FULLY SPRINKLERED

CONSULTANTS:		ARCHITECT/ENGINEERS:	
CIVIL/STRUCTURAL:		HEERY design	
MARTIN/MARTIN CONSULTING ENGINEERS 12439 WEST 5000 AVENUE SUITE 200, BLDG. C00 DENVER, CO 80215 P.O. BOX 303, DENVER, CO 80266 SSR 008 P. 06270120		Heery International Inc. 820 16th Street Mall, Suite 200 DENVER, CO 80202-3219 720.946.0276 Heery Project Number: 06834400	
MECHANICAL, PLUMBING, AND ELECTRICAL:		Drawing Title PROJECT SURGERY RENOVATION AND EXPANSION	
SSR Smith ARCHITECT, INC. 805 E. TULSA AVENUE SUITE 1100 DENVER, COLORADO 80203 FAX: (303) 864-9144 P.O. BOX 303, DENVER, CO 80266 SSR 008 P. 06270120		Project Number VA-259-09-RA-209	
PLAN NORTH		Building Number BLDG. NO. 1	
		Drawing Number MH701	
SCALE: 1/8" = 1'-0"		Dwg. # of 44	
Date		Department of Veterans Affairs	